

IN THE CLAIMS:

1. (Currently amended) A method of producing a cordierite ceramic honeycomb comprising the steps of:

preparing raw materials becoming cordierite and forming agents;

adding the forming agents into the raw materials becoming cordierite;

mixing the forming agents and the raw materials to obtain a raw material batch;

extruding the raw material batch to obtain a formed body; drying the formed body; and

sintering the formed body after drying, so as to obtain a honeycomb structural body having a cordierite crystal phase as a main ingredient, wherein, at the sintering step, a temperature descending rate at least from a maximum temperature greater than 1300°C to 1300°C is not larger than 100°C/hour.

2. (Original) The method of producing a cordierite ceramic honeycomb according to claim 1, wherein quartz is used in the raw material batch becoming cordierite and alumina having an average particle size larger than 2  $\mu\text{m}$  is used.

3. (Previously Amended) The method of producing a cordierite ceramic honeycomb according to claim 1, wherein a thermal expansion coefficient along A-axis of the cordierite ceramic honeycomb is not larger than  $0.4 \times 10^{-6}/^{\circ}\text{C}$  and a thermal expansion coefficient along B-axis of the cordierite ceramic honeycomb is not larger than  $0.6 \times 10^{-6}/^{\circ}\text{C}$ , in a temperature range from  $40^{\circ}\text{C}$  to  $800^{\circ}\text{C}$ .

4. (Previously Amended) The method of producing a cordierite ceramic honeycomb according to claim 1, wherein a thermal expansion coefficient along A-axis of the cordierite ceramic honeycomb is not larger than  $0.3 \times 10^{-6}/^{\circ}\text{C}$  and a thermal expansion coefficient along B-axis of the cordierite ceramic honeycomb is not larger than  $0.5 \times 10^{-6}/^{\circ}\text{C}$ .

5. (Previously Amended) The method of producing a cordierite ceramic honeycomb according to claim 1, wherein a porosity of the cordierite ceramic honeycomb is larger than 30%.

6. (Previously Amended) The method of producing a cordierite ceramic honeycomb according to claim 1, wherein lauric acid potash soap is used as the forming agent.

7. (Previously Amended) The method of producing a cordierite ceramic honeycomb according to claim 1, wherein a temperature descending rate from the maximum temperature to 1250°C is not larger than 50°C/hour.

8. (Previously Amended) The method of producing a cordierite ceramic honeycomb according to claim 1, wherein a temperature maintaining time at the maximum temperature is not less than 6 hours.

9. (New) The method of producing a cordierite ceramic honeycomb according to claim 1, wherein the maximum temperature is 1425°C.

10. (New) The method of producing a cordierite ceramic honeycomb according to claim 1, wherein the temperature descending rate is less than 100°C/hour.